A novel method to investigate letter homotopy..

Hello,

I am in MP and I would like to do my TIPE on homotopies. As an application, I thought that I could classify the letters of the alphabet into homotopy classes and / or find the explicit expression of a homotopy of a face (a circle with 2 eyes and no mouth) is B for example and simulate this deformation on Maple.

Is it feasible?

How to start?

To have a concrete thing to show the teacher at the beginning of the term.

Thank you in advance !

Homotopy is too broad to classify letters, it is necessary to tinker with a local homotopy ($Cl(A) = A, Cl(2) = Z$)
A letter can only be distorted between its extremities*, which takes us to the world of OCR algorithms.
Relationship of equivalence between words: R = written with the same letters.

The key ideas of these algorithms are summarized in this document found on Google.
To transcribe these ideas of computer scientists in mathematical language would indeed make it possible to define a whole dictionary of invariants equivalent to R.
For example on page 17 of this document the author exposes the method of projection of a handwritten letter according to Ox and Oy (pixels / division) is creates an invariant "which wants to be" equivalent to R, a piece of math would justify these so-called elementary methods.
The other method of so-called non-elementary neural networks is the optimal method that approaches the best of nature (what the brain does when trying to decipher the writing), probably impossible to demonstrate because of an incompleteness of any proof in this sense.

* (the conditions are those of writing by hand)